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## WHAT IS CLAIMED IS:

1. A positive active material for rechargeable lithium batteries, the positive active material comprising:

an active material component processed from a manganese-based compound, the manganese-based compound being selected from the group consisting of Li<sub>x</sub>MnO<sub>2</sub>, Li<sub>x</sub>MnF<sub>2</sub>, Li<sub>x</sub>MnS<sub>2</sub>, Li<sub>x</sub>MnO<sub>2-z</sub>F<sub>z</sub>, Li<sub>x</sub>MnO<sub>2-z</sub>S<sub>z</sub>, Li<sub>x</sub>Mn<sub>1-y</sub>M<sub>y</sub>O<sub>2</sub>, Li<sub>x</sub>Mn<sub>1-y</sub>M<sub>y</sub>S<sub>2</sub>, Li<sub>x</sub>Mn<sub>1-y</sub>M<sub>y</sub>O<sub>2-z</sub>F<sub>z</sub>, Li<sub>x</sub>Mn<sub>1-y</sub>M<sub>y</sub>O<sub>2-z</sub>S<sub>z</sub>, Li<sub>x</sub>Mn<sub>2</sub>O<sub>4</sub>, Li<sub>x</sub>Mn<sub>2</sub>O<sub>4</sub>, Li<sub>x</sub>Mn<sub>2</sub>O<sub>4</sub>, Li<sub>x</sub>Mn<sub>2</sub>O<sub>4</sub>, Li<sub>x</sub>Mn<sub>2</sub>O<sub>4</sub>, Li<sub>x</sub>Mn<sub>2</sub>O<sub>4</sub>, Li<sub>x</sub>Mn<sub>2</sub>O<sub>4</sub>, Li<sub>x</sub>Mn<sub>2</sub>O<sub>4</sub>, Li<sub>x</sub>Mn<sub>2-y</sub>M<sub>y</sub>O<sub>4</sub>, Li<sub>x</sub>Mn<sub>2-y</sub>M<sub>y</sub>S<sub>4</sub>, Li<sub>x</sub>Mn<sub>2-y</sub>M<sub>y</sub>O<sub>4-z</sub>F<sub>z</sub>, and Li<sub>x</sub>Mn<sub>2-y</sub>M<sub>y</sub>O<sub>4-z</sub>S<sub>z</sub> where 0<x≤1.5, 0.05≤y≤0.3, z≤1.0 and M is selected from the group consisting of Al, Co, Cr, Mg, Fe and La; and

a metallic oxide coated on the active material component.

- 2. The positive active material of claim 1 wherein the metallic oxide has a metal component selected from the group consisting of Si, Mg, Ti and Al.
- 3. The positive active material of claim 1 wherein the metallic oxide has a thickness ranged from 1 to 100nm.

The positive active material of claim 1 wherein the metallic oxide has a 0.1 to 10 weight percent of metal component.

rechargeable lithium batteries, the method comprising the steps of:

obtaining a powder from a source material, the source material being selected from the group consisting of  $\text{Li}_x \text{MnO}_2$ ,  $\text{Li}_x \text{MnF}_2$ ,  $\text{Li}_x \text{MnS}_2$ ,  $\text{Li}_x \text{MnO}_{2\text{-}z} \text{F}_z$ ,  $\text{Li}_x \text{MnO}_{2\text{-}z} \text{S}_z$ ,  $\text{Li}_x \text{Mn}_{1\text{-}y} \text{M}_y \text{O}_2$ ,  $\text{Li}_x \text{Mn}_{1\text{-}y} \text{M}_y \text{O}_3$ ,  $\text{Li}_x \text{Mn}_{1\text{-}y} \text{Mn}_{1\text{-}y} \text{M}_y \text{O}_3$ ,  $\text{Li}_x \text{Mn}_{1\text{-}y} \text{Mn}_{1\text{-$ 

 $_{y}M_{y}O_{2-z}S_{z}$ ,  $Li_{x}Mn_{2}O_{4}$ ,  $Li_{x}Mn_{2}F_{4}$ ,  $Li_{x}Mn_{2}S_{4}$ ,  $Li_{x}Mn_{2}O_{4-z}F_{z}$ ,  $Li_{x}Mn_{2}O_{4-z}S_{z}$ ,  $Li_{x}Mn_{2-y}M_{y}O_{4}$ ,  $Li_{x}Mn_{2-y}M_{y}S_{4}$ ,  $Li_{x}Mn_{2-y}M_{y}O_{4-z}F_{z}$ , and  $Li_{x}Mn_{2-y}M_{y}O_{4-z}S_{z}$  where  $0 < x \le 1.5$ ,  $0.05 \le y \le 0.3$ ,  $z \le 1.0$  and M is selected from the group consisting of AI, Co, Cr, Mg, Fe and La;

coating the powder with a metallic alkoxide solution to make an alkoxide-coated powder; and

heat-treating the metallic alkoxide-coated powder such that the metallic alkoxide-coated powder is changed into a metallic oxide-coated powder.

The method of claim 5 wherein the metallic alkoxide solution is selected from the group consisting of Si-alkoxide, Mg-alkoxide, Ti-alkoxide and Akalkoxide.

The method of claim 5 wherein the metallic alkoxide solution contains a 1 to 50 weight percent of metal component.

8. The method of claim 5 wherein the heat-treating step is performed at temperatures ranged from 200 to 1000°C for 1 to 20 hours.

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